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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,207	10/19/2001	Sachin G. Deshpande	8371-144	5056

46404 7590 03/19/2007	EXAMINER
MARGER JOHNSON & MCCOLLOM, P.C. 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204	MILLS, DONALD L

	ART UNIT	PAPER NUMBER
	2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
	10/055,207	DESHPANDE, SACHIN G.
Office Action Summary	Examiner	Art Unit
	Donald L. Mills	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chaddha et

al. (U.S. Patent No. 5,768,535), hereinafter referred to as Chaddha, in view of Fan et al. (US

6,408,005 B1), hereinafter referred to as Fan.

Referring to claims 1, 13, and 17, Chaddha et al. discloses a method for transmitting data

over a transmission channel, comprising:

Accepting, at an input of a data transmitter (see Fig. 1), *data that has been encoded into*

a base layer (base layer, col. 3 lines 11-22 and 37-52, col. 5 lines 21-30, col. 7 lines 1-15, col. 9

lines 27-45 and col. 10 lines 25-35) *and an enhancement layer* (enhancement layer, col. 3 lines

11-22, col. 3 lines 36-52, col. 5 line 1 and 22-29, col. 9 lines 27-43 and col. 10 lines 17-29);

transmitting the base layer (base layer, col. 3 lines 11-22 and 37-52, col. 5 lines 21-30, col. 7

lines 1-15, col. 9 lines 27-45 and col. 10 lines 25-35) *on the transmission channel.*

Chaddha does not disclose *determining a bandwidth available to the data transmitter*

associated with transmitting the base layer; and transmitting the enhancement layer if there is

enough bandwidth available to transmit the enhancement layer responsive to determining the

bandwidth associated with transmitting the base layer.

Essentially, the claimed invention teaches encoding data into multiple traffic classes requiring different levels of Quality of Service (QoS). Chaddha teaches the importance of traffic management with QoS by scaling the frame-rate to the desired transmission rate by dropping frames, thereby, intelligently prioritizing certain frames with higher priority over frames with lower priority (See column 6, lines 46-67.) Fan teaches a dynamic rate control scheduler, which comprises providing a minimum guaranteed rate (bandwidth available to the data transmitter associated with transmitting the base layer) and a share of the excess bandwidth (enhancement layer). The scheduler first services the minimum rate and then may or may not distribute the unused bandwidth (transmitting the enhancement layer if there is enough bandwidth available to transmit the enhancement layer responsive to determining the bandwidth associated with transmitting the base layer) (See column 6, lines 60-65 and column 7, lines 1-3.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the dynamic scheduling of Fan in the system of Chaddha. One of ordinary skill in the art would have been motivated to do so in order to maintain channel bandwidth during transmission of the base layer and enhancement layer via designated a minimum transmission rate and share of excess bandwidth, thereby, eliminating the need to drop frames on a congested or bandwidth starved link as taught by Chaddha (See column 2, lines 52-55.)

Regarding claim 2 as explained in the rejection statement of claim 1, Chaddha and Fan disclose all of the claim limitations of claim 1 (parent claim).

Chaddha does not disclose *wherein determining if there is enough bandwidth available to the data transmitter to transmit the enhancement layer in addition to the base layer comprises*

calculating a bandwidth previously used by the data transmitter in previously transmitting layers.

Fan teaches a dynamic rate control scheduler, which comprises providing a minimum guaranteed rate (bandwidth available to the data transmitter associated with transmitting the base layer) and a share of the excess bandwidth (enhancement layer). The scheduler first services the minimum rate and then may or may not distribute the unused bandwidth (See column 6, lines 60-65 and column 7, lines 1-3.) The scheduler measures the load on the downstream buffers and determines whether to distribute unused bandwidth (calculating a bandwidth previously used by the data transmitter in previously transmitting layers) (See column 7, lines 49-52.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the dynamic scheduling of Fan in the system of Chaddha. One of ordinary skill in the art would have been motivated to do so in order to maintain channel bandwidth during transmission of the base layer and enhancement layer via designated a minimum transmission rate and share of excess bandwidth, thereby, eliminating the need to drop frames on a congested or bandwidth starved link as taught by Chaddha (See column 2, lines 52-55.)

Regarding claims 3, 14, 16, and 18-20 as explained in the rejection statement of claims 1, 13, and 17; Chaddha and Fan disclose all of the claim limitations of claims 1, 13, and 17 (parent claims).

Chaddha does not disclose *wherein determining if there is enough bandwidth available to the data transmitter to transmit the enhancement layer in addition to the base layer comprises measuring data traffic on the transmission channel to determine if enough bandwidth exists to transmit additional layers.*

Chaddha teaches the importance of traffic management with QoS by scaling the frame-rate to the desired transmission rate by dropping frames, thereby, intelligently prioritizing certain frames with higher priority over frames with lower priority (See column 6, lines 46-67.) Fan teaches a dynamic rate control scheduler, which comprises providing a minimum guaranteed rate (bandwidth available to the data transmitter associated with transmitting the base layer) and a share of the excess bandwidth (enhancement layer). The scheduler first services the minimum rate and then may or may not distribute the unused bandwidth (See column 6, lines 60-65 and column 7, lines 1-3.) The scheduler measures the load on the downstream buffers and determines whether to distribute unused bandwidth (measuring data traffic on the transmission channel to determine if enough bandwidth exists to transmit additional layers) (See column 7, lines 49-52.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the dynamic scheduling of Fan in the system of Chaddha. One of ordinary skill in the art would have been motivated to do so in order to maintain channel bandwidth during transmission of the base layer and enhancement layer via designated a minimum transmission rate and share of excess bandwidth, thereby, eliminating the need to drop frames on a congested or bandwidth starved link as taught by Chaddha (See column 2, lines 52-55.)

Regarding claims 4-7 and 15 as explained in the rejection statement of claims 1 and 13, Chaddha and Fan disclose all of the claim limitations of claims 1 and 13 (parent claims).

Chaddha does not disclose *wherein the data transmitter has a pre-set target data rate, and wherein determining if there is enough bandwidth available to the data transmitter to transmit the enhancement layer in addition to the base layer already transmitted comprises*

determining whether an average bandwidth used by the data transmitter over a last measuring

period is below the pre-set target data rate.

Chaddha teaches the importance of traffic management with QoS by scaling the frame-

rate to the desired transmission rate by dropping frames, thereby, intelligently prioritizing certain

frames with higher priority over frames with lower priority (See column 6, lines 46-67.) Fan

teaches a dynamic rate control scheduler, which comprises providing a minimum guaranteed rate

(bandwidth available to the data transmitter associated with transmitting the base layer) and a

share of the excess bandwidth (enhancement layer). The scheduler first services the minimum

rate and then may or may not distribute the unused bandwidth (See column 6, lines 60-65 and

column 7, lines 1-3.) The scheduler measures the load on the downstream buffers and

determines whether to distribute unused bandwidth (determining an average bandwidth used by

the data transmitter over a last measuring period is below the pre-set target data rate) (See

column 7, lines 49-52.)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to implement the dynamic scheduling of Fan in the system of Chaddha. One of ordinary skill in

the art would have been motivated to do so in order to maintain channel bandwidth during

transmission of the base layer and enhancement layer via designated a minimum transmission

rate and share of excess bandwidth, thereby, eliminating the need to drop frames on a congested

or bandwidth starved link as taught by Chaddha (See column 2, lines 52-55.)

Referring to claims 8, 21, and 22 as explained in the rejection statement of claims 1 and

17; Chaddha and Fan disclose all of the claim limitations of claims 1 and 17 (parent claims).

Chaddha further teaches *wherein the data is additionally encoded as a second enhancement*

layer (second enhancement layer, col. 3 lines 11-22, col. 3 lines 36-52, col. 5 line 1 and 22-29,

col. 9 lines 27-43 and col. 10 lines 17-29.)

Chaddha does not disclose *determining if there is enough bandwidth available to the data*

transmitter to transmit the enhancement layer in addition to the base and enhancement already

transmitted by the data transmitter; and transmitting the second enhancement layer available to

transmit the second enhancement layer.

Chaddha teaches the importance of traffic management with QoS by scaling the frame-

rate to the desired transmission rate by dropping frames, thereby, intelligently prioritizing certain

frames with higher priority over frames with lower priority (See column 6, lines 46-67.) Fan

teaches a dynamic rate control scheduler, which comprises providing a minimum guaranteed rate

(bandwidth available to the data transmitter associated with transmitting the base layer) and a

share of the excess bandwidth (enhancement layer). The scheduler first services the minimum

rate and then may or may not distribute the unused bandwidth (See column 6, lines 60-65 and

column 7, lines 1-3.) The scheduler measures the load on the downstream buffers and

determines whether to distribute unused bandwidth to each pending output, thereby, forming an

"enhancement layer" for each output, which is assigned unused bandwidth (transmitting the

second enhancement layer available to transmit the second enhancement layer) (See column 7,

lines 49-52 and column 8, lines 10-17.)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to implement the dynamic scheduling of Fan in the system of Chaddha. One of ordinary skill in

the art would have been motivated to do so in order to maintain channel bandwidth during

transmission of the base layer and enhancement layer via designated a minimum transmission

rate and share of excess bandwidth, thereby, eliminating the need to drop frames on a congested

or bandwidth starved link as taught by Chaddha (See column 2, lines 52-55.)

Referring to claim 9, the primary reference further teaches *wherein transmitting the base*

layer on the transmission channel comprises transmitting the base layer (base layer, col. 3 lines

11-22 and 37-52 col. 5 lines 21-30, col. 7 lines 1-15, col. 9 lines 27-45 and col. 10 lines 25-35)

on a LAN (see Network, Fig. 1) *connection between two or more computers.*

Referring to claim 10, the primary reference further teaches *wherein transmitting the*

base layer on the transmission channel comprises transmitting data from a media server to an

image projector (Fig. 1 ref. sign 180 and respective portions of the spec.).

Referring to claim 11, the primary reference further teaches *wherein transmitting the*

base layer on the transmission channel comprises transmitting data from a media server to a

decoding device (decoder, Fig. 1 ref. sign 40 and respective portions of the spec.).

Regarding claim 12 as explained in rejection statement of claim 1, Chaddha and Fan

teach all of the claim limitations of claim 1 (parent claim).

Chaddha does not disclose *determining if there is enough bandwidth available to the data*

transmitter to transmit the enhancement layer in addition to the base layer already transmitted

comprises calculating at least two average bandwidths used by the data transmitter, each of the

average bandwidths calculated over different measuring periods.

Chaddha teaches the importance of traffic management with QoS by scaling the frame-

rate to the desired transmission rate by dropping frames, thereby, intelligently prioritizing certain

frames with higher priority over frames with lower priority (See column 6, lines 46-67.) .) Fan

teaches a dynamic rate control scheduler, which comprises providing a minimum guaranteed rate

(bandwidth available to the data transmitter associated with transmitting the base layer) and a

share of the excess bandwidth (enhancement layer). The scheduler first services the minimum

rate and then may or may not distribute the unused bandwidth (See column 6, lines 60-65 and

column 7, lines 1-3.) The scheduler measures the load on the downstream buffers, calculated as

a summing of averages over time, and determines whether to distribute unused bandwidth to

each pending output (See column 7, lines 5-15 and 49-52 and column 8, lines 10-17.)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to implement the dynamic scheduling of Fan in the system of Chaddha. One of ordinary skill in

the art would have been motivated to do so in order to maintain channel bandwidth during

transmission of the base layer and enhancement layer via designated a minimum transmission

rate and share of excess bandwidth, thereby, eliminating the need to drop frames on a congested

or bandwidth starved link as taught by Chaddha (See column 2, lines 52-55.)

Response to Arguments

3.   Applicant's arguments with respect to claims 1-22 have been considered but are moot in

view of the new ground(s) of rejection.

Rejection Under 35 USC 103

On page 7 of the remarks, regarding claims 1-22, the Applicant argues neither Chaddha

nor Baker disclose, teach, or otherwise make obvious *determining a bandwidth available to the*

data transmitter associated with transmitting the base layer and transmitting the enhancement

layer if there is enough bandwidth available to transmit the enhancement layer responsive to

determining the bandwidth associated with transmitting the base layer. The Examiner

acknowledges that the above stated amendments to the claims overcome the Baker reference.

However, based upon a further updated search, the amended claims are made obvious over

Chaddha in view of Fan renders.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The

examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Donald L Mills

March 14, 2007

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